

Patent Abstracts of Japan

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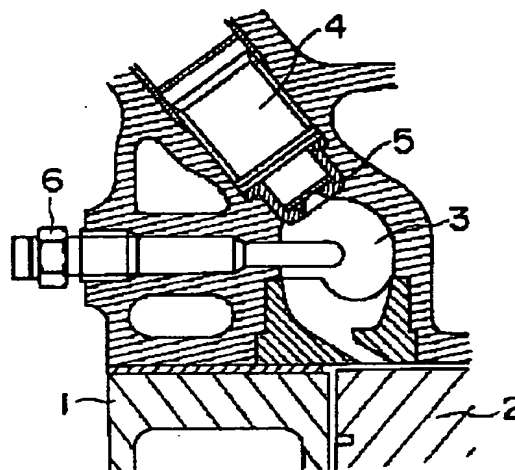
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TITLE : MACHINE STRUCTURAL PARTS  
COVERED WITH CERAMIC HEAT  
INSULATION MATERIAL



ABSTRACT : PROBLEM TO BE SOLVED: To provide the machine structural parts in which the sufficient heat insulation effect can be easily demonstrated without degradation of metallic parts or the dimensional changes, the service life is long, and the reliability is high by combining the ceramic heat insulation material with the metallic parts.

SOLUTION: A ceramic heat insulation material 5 is mounted so as to cover a part of or a whole of metallic parts. The ceramic heat insulation material is  $\leq 5$  W/mK in heat conductivity, and  $\geq 800$  K in thermal impact resistance, and smaller than the metallic parts in the coefficient of thermal expansion. The porous material mainly consisting of silicon nitride of  $\geq 100$  Mpa in bending strength and  $\geq 30\%$  in porosity is preferable as the ceramic heat insulation material.

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